JOURNAL OF
NON-CRYSTALLINE SOLIDS

Abstracted/indexed in: 'Ceramic Abstracts', 'Current Contents: Physical, Chemical and Earth Sciences', 'EI Compendex Plus', 'Engineering Index', 'INSPEC' and 'Materials Information'.

Contents

Volume 289, Nos. 1–3, August II, 2001

Medium range structure of borosilicate glasses from Si K-edge XANES: a combined approach based on multiple scattering and molecular dynamics calculations
D. Cabaret, M. Le Grand, A. Ramos, A.-M. Flank, S. Rossano, L. Galoisy, G. Calas and D. Ghaleb 1

Viscoelastic properties of amorphous boron trioxide
K.M. Bernatz, I. Echeverría, S.L. Simon and D.J. Plazek 9

Effect of feed melting, temperature history, and minor component addition on spinel crystallization in high-level waste glass
P. Izak, P. Hrma, B.W. Arey and T.J. Plaisted 17

Transport properties of bulk amorphous semiconductor $Al_{32}Ge_{68}$
A.I. Kolyubakin, V.E. Antonov, O.I. Barkalov, A.F. Gurov and A.I. Harkunov 30

Durable phosphate glasses with lower transition temperatures
A.E. Marino, S.R. Arrasmith, L.L. Gregg, S.D. Jacobs, G. Chen and Y. Duc 37

Theory of H^- in SiO_2
A.H. Edwards, W.M. Shedd and R.D. Pugh 42

Atomic scale structure of alcohol-based zirconia xerogels by X-ray diffraction
A.C. Geiculescu and H.J. Rack 53

Structure of silicon oxycarbide glasses derived from poly(methylsiloxane) and poly[methyl(phenyl)siloxane] precursors
J. Brus, F. Kolář, V. Machovič and J. Svítilová 62

New AlDyNi(Co) glasses – decomposition behaviour
U. Schmidt, C. Eisenschmidt, C.Y. Zahra and A.-M. Zahra 75

Preparation of low-density xerogels by incorporation of additives during synthesis
C. Alié, F. Ferauche, R. Pirard, A.J. Lecloux and J.-P. Pirard 88

Mesoporous TMOS–MTMS copolymer silica gels catalyzed by fluoride
L. He, K. Powers, R.H. Baney, L. Gower, R.S. Duran, P. Sheth and S.R. Carino 97

Development of a platinum rotating disc electrode for dynamic electrochemical measurements in glass melts
J. De Strycker, P. Westbroek and E. Temmerman 106

Modifier effects on the properties and structures of aluminophosphate glasses
E. Metwalli and R.K. Brow 113

Influence of the Ca/P ratio on the morphology of fluorapatite crystals in SiO_2–Al_2O_3–CaO–P_2O_5–K_2O–F^- glass-ceramics
C. Moisescu, T. Höche, G. Carl, R. Keding, C. Rüssel and W.D. Heerdegen 123

Thermochemistry of nuclear waste glasses: application to weathering studies
Y. Linard, T. Advocat, C. Jégou and P. Richet 135

Nucleation and growth of crystals in a ZBLYALiPb glass
M. Baricco, E. Chierici, L. Battezzati, M. Braglia, G. Dai, J. Kraus and S. Mosso 144

(Continued on last page)

Pre-publication abstracts of articles in Journal of Non-Crystalline Solids and other related journals are now available weekly in electronic form via CoDAS, a new direct alerting service run jointly by Elsevier Science and Institute of Physics Publishing. For details on a free one-month subscription, contact Terry Hulbert on fax +44-1272 294 318 or e-mail terry.hulbert@ioppublishing.co.uk.

0022-3093(200108)289:1-3;1-9

JOURNAL OF
NON-CRYSTALLINE SOLIDS

Abstracted/indexed in: 'Ceramic Abstracts', 'Current Contents: Physical, Chemical and Earth Sciences', 'EI Compendex Plus', 'Engineering Index', 'INSPEC' and 'Materials Information'.

Contents

Volume 289, Nos. 1–3, August II, 2001

Medium range structure of borosilicate glasses from Si K-edge XANES: a combined approach based on multiple scattering and molecular dynamics calculations
D. Cabaret, M. Le Grand, A. Ramos, A.-M. Flank, S. Rossano, L. Galoisy, G. Calas and D. Ghaleb 1

Viscoelastic properties of amorphous boron trioxide
K.M. Bernatz, I. Echeverría, S.L. Simon and D.J. Plazek 9

Effect of feed melting, temperature history, and minor component addition on spinel crystallization in high-level waste glass
P. Izak, P. Hrma, B.W. Arey and T.J. Plaisted 17

Transport properties of bulk amorphous semiconductor $Al_{32}Ge_{68}$
A.I. Kolyubakin, V.E. Antonov, O.I. Barkalov, A.F. Gurov and A.I. Harkunov 30

Durable phosphate glasses with lower transition temperatures
A.E. Marino, S.R. Arrasmith, L.L. Gregg, S.D. Jacobs, G. Chen and Y. Duc 37

Theory of H^- in SiO_2
A.H. Edwards, W.M. Shedd and R.D. Pugh 42

Atomic scale structure of alcohol-based zirconia xerogels by X-ray diffraction
A.C. Geiculescu and H.J. Rack 53

Structure of silicon oxycarbide glasses derived from poly(methylsiloxane) and poly[methyl(phenyl)siloxane] precursors
J. Brus, F. Kolář, V. Machovič and J. Svítilová 62

New AlDyNi(Co) glasses – decomposition behaviour
U. Schmidt, C. Eisenschmidt, C.Y. Zahra and A.-M. Zahra 75

Preparation of low-density xerogels by incorporation of additives during synthesis
C. Alié, F. Ferauche, R. Pirard, A.J. Lecloux and J.-P. Pirard 88

Mesoporous TMOS–MTMS copolymer silica gels catalyzed by fluoride
L. He, K. Powers, R.H. Baney, L. Gower, R.S. Duran, P. Sheth and S.R. Carino 97

Development of a platinum rotating disc electrode for dynamic electrochemical measurements in glass melts
J. De Strycker, P. Westbroek and E. Temmerman 106

Modifier effects on the properties and structures of aluminophosphate glasses
E. Metwalli and R.K. Brow 113

Influence of the Ca/P ratio on the morphology of fluorapatite crystals in SiO_2–Al_2O_3–CaO–P_2O_5–K_2O–F^- glass-ceramics
C. Moisescu, T. Höche, G. Carl, R. Keding, C. Rüssel and W.D. Heerdegen 123

Thermochemistry of nuclear waste glasses: application to weathering studies
Y. Linard, T. Advocat, C. Jégou and P. Richet 135

Nucleation and growth of crystals in a ZBLYALiPb glass
M. Baricco, E. Chierici, L. Battezzati, M. Braglia, G. Dai, J. Kraus and S. Mosso 144

(Continued on last page)

Pre-publication abstracts of articles in Journal of Non-Crystalline Solids and other related journals are now available weekly in electronic form via CoDAS, a new direct alerting service run jointly by Elsevier Science and Institute of Physics Publishing. For details on a free one-month subscription, contact Terry Hulbert on fax +44-1272 294 318 or e-mail terry.hulbert@ioppublishing.co.uk.

0022-3093(200108)289:1-3;1-9

(*continued from outside back cover*)

Synthesis of nanocrystalline yttrium disilicate powder by a sol–gel method
M. Díaz, I. Garcia-Cano, S. Mello-Castanho, J.S. Moya and M.A. Rodríguez 151
IR spectra and their application for evaluating physical properties of fluorophosphate glasses
B. Karmakar, P. Kundu and R.N. Dwivedi 155
Precipitation of nano-scale icosahedral quasicrystalline phase in amorphous $Hf_{70}Ni_{10}Pd_{20}$ alloy
C. Li and A. Inoue 163
Effect of oxygen contamination on the properties of the silicon hydrogen alloy materials deposited under conditions near the microcrystalline silicon formation region
N. Dutta Gupta and P. Chaudhuri 168
The effects of radiation on the density of an aluminoborosilicate glass
M.O. Prado, N.B. Messi, T.S. Plivelic, I.L. Torriani, A.M. Bevilacqua and M.A. Arribére 175
X-ray photoelectron spectroscopy (XPS) and magnetization studies of iron–vanadium phosphate glasses
M.A. Salim, G.D. Khattak, P.S. Fodor and L.E. Wenger 185
Structure and crystallization behavior of Al-free Ge-based amorphous alloys produced by rapid solidification of the melt
D.V. Louzguine, A. Takeuchi and A. Inoue 196
Structure of sodium phosphate glasses containing Al_2O_3 and/or Fe_2O_3. Part I
A. Moguš-Milanković, A. Gajović, A. Šantić and D.E. Day 204
Glass forming ability and crystallisation processes within the Al–Ni–Sm system
M. Gich, T. Gloriant, S. Suriñach, A.L. Greer and M.D. Baró 214
Study of the influence of Ar on the formation of diamond-like bonds in films obtained from CH_4 + Ar, RF plasma deposition
M. Maharizi, N. Croitoru and A. Seidman 221

Letter to the Editor
YAG laser-induced crystalline dot patterning in samarium tellurite glasses
R. Sato, Y. Benino, T. Fujiwara and T. Komatsu 228

Author index 233
Subject index 236

CONTENTS direct

This journal is part of **ContentsDirect**, the ***free*** alerting service which sends tables of contents by e-mail for Elsevier Science books and journals. You can register for **ContentsDirect** online at: **www.elsevier.com/locate/contentsdirect**